

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,883,574 B2
APPLICATION NO. : 10/633926
DATED : April 26, 2005
INVENTOR(S) : Gregory M. Chapman

Page 1 of 9

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

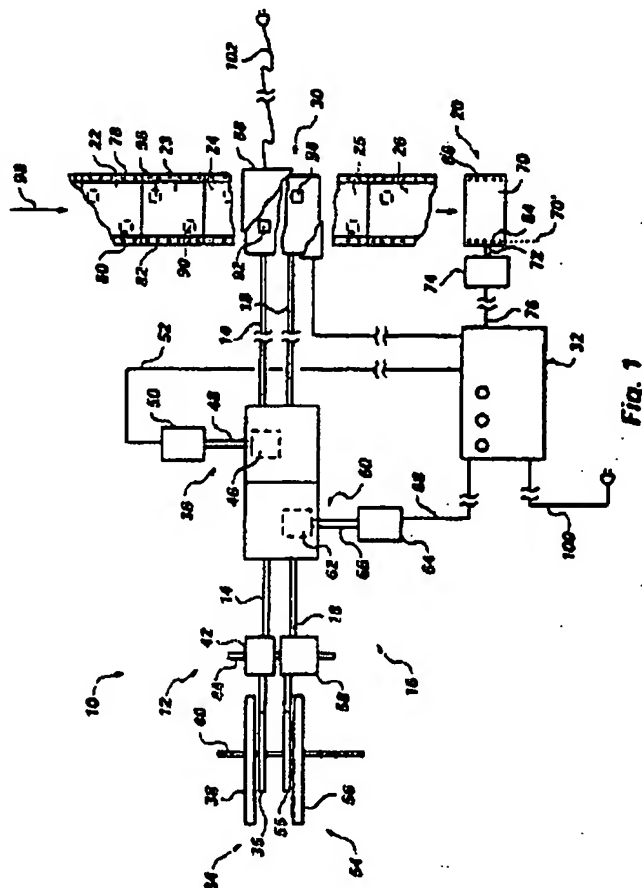
The Title Page showing an illustrative figure, should be deleted and substitute therefor the attached title page.

On the title page:
Item (54) "Title",

change "APPARATUS FOR APPLICATION OF
ADHESIVE TAPE TO SEMICONDUCTOR DEVICES"
to --METHOD AND APPARATUS FOR APPLICATION
OF ADHESIVE TAPE TO SEMICONDUCTOR
DEVICES--

In the drawings:
In FIG. 1,

change existing lead line for reference numeral --86-- to
accurately extend from teeth on right side of indexing roller
70 (As shown below)



UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

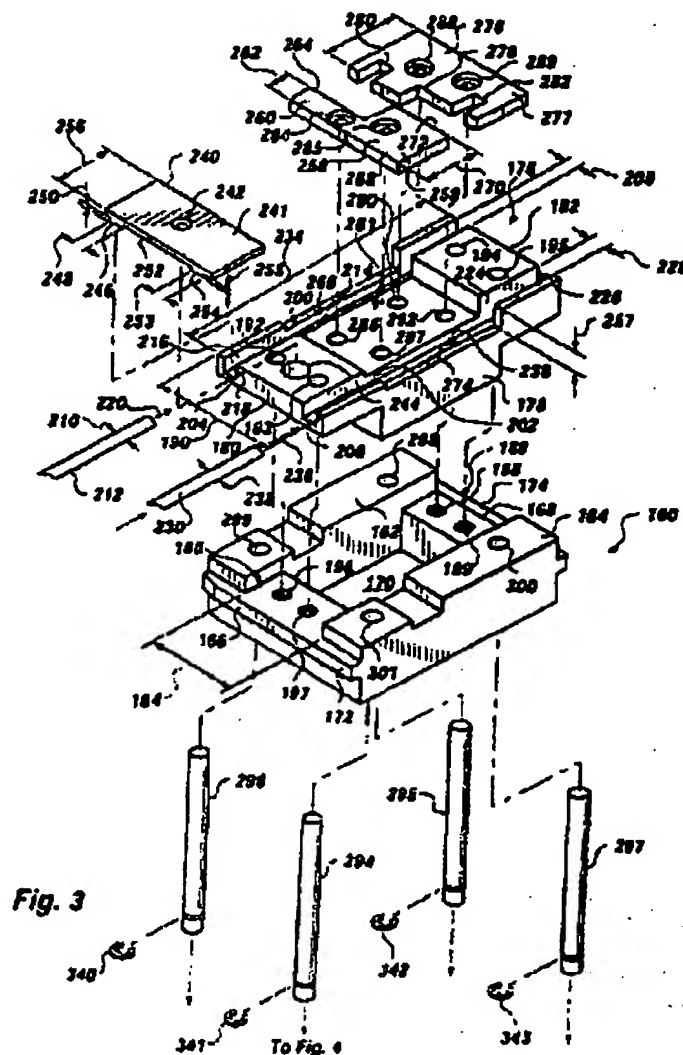
PATENT NO. : 6,883,574 B2
APPLICATION NO. : 10/633926
DATED : April 26, 2005
INVENTOR(S) : Gregory M. Chapman

Page 2 of 9

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In FIG. 3,

change lowermost second occurrence of reference numeral "260" located below reference numeral 290 to --261--;
add reference numeral --184-- and an appropriate lead line to indicate a distance
change first occurrence of reference numeral "341" located below guide post 296, to --340-- (As shown below)



UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,883,574 B2
APPLICATION NO. : 10/633926
DATED : April 26, 2005
INVENTOR(S) : Gregory M. Chapman

Page 3 of 9

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In FIG. 4,

change reference numeral "340" to --340'-- (As shown below)

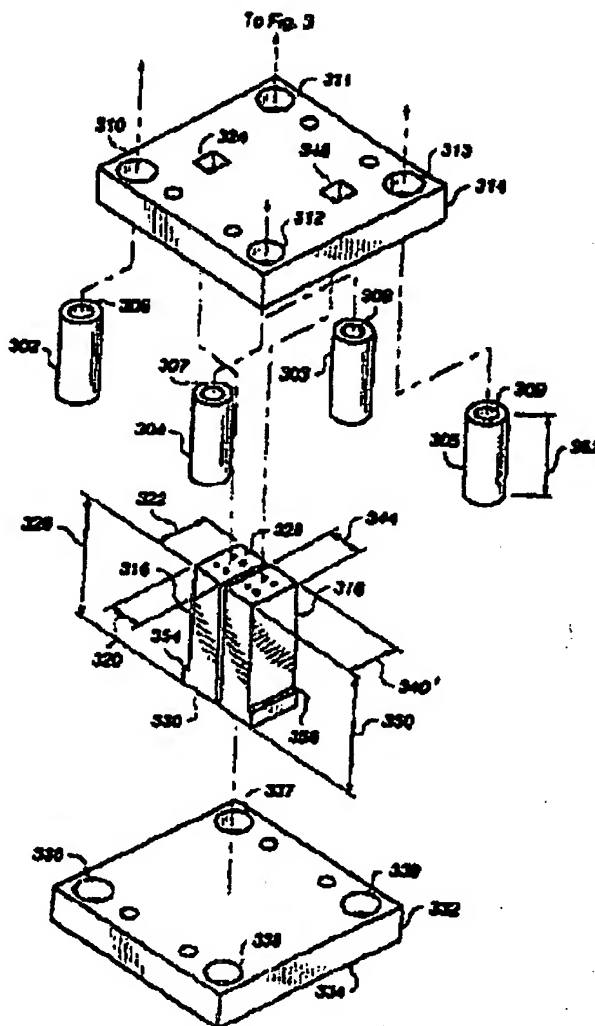


Fig. 4

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,883,574 B2
APPLICATION NO. : 10/633926
DATED : April 26, 2005
INVENTOR(S) : Gregory M. Chapman

Page 4 of 9

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In FIG. 7,

add reference numeral --562-- and associated lead line to aperture located left of reference numeral 540 (As shown below)

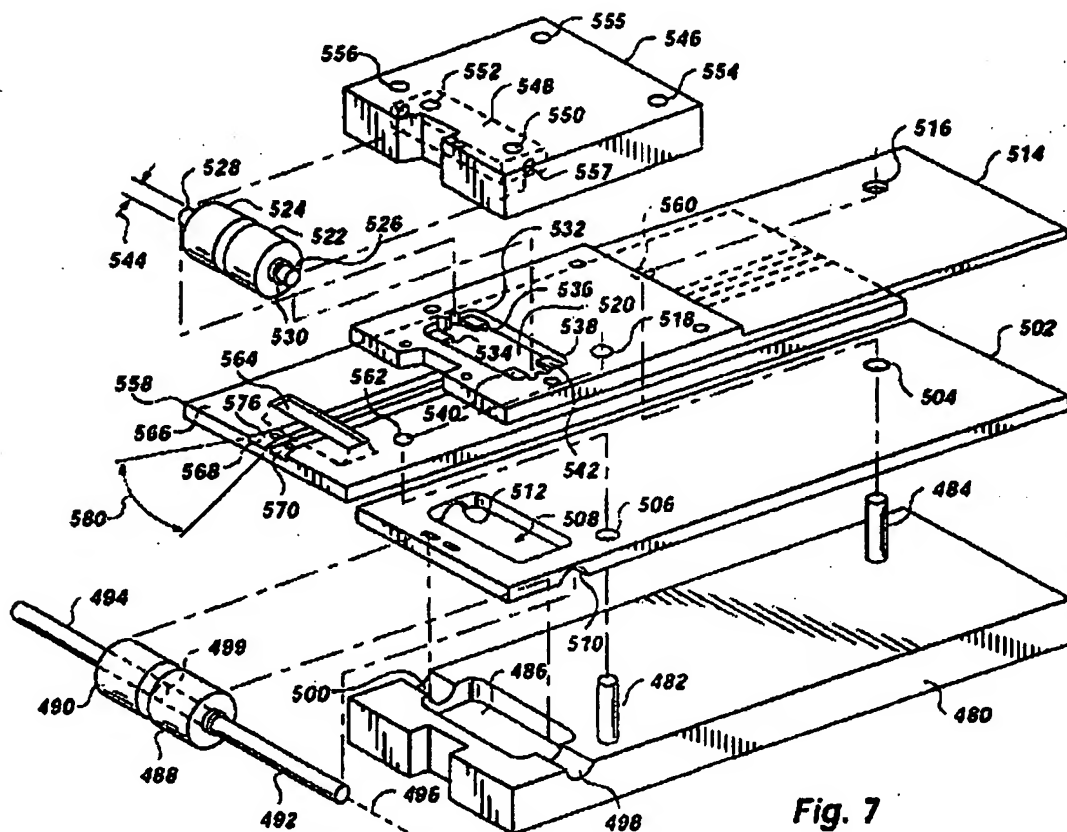


Fig. 7

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,883,574 B2
APPLICATION NO. : 10/633926
DATED : April 26, 2005
INVENTOR(S) : Gregory M. Chapman

Page 5 of 9

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In FIG. 12, add reference numeral --568-- and an appropriate lead line (As shown below)

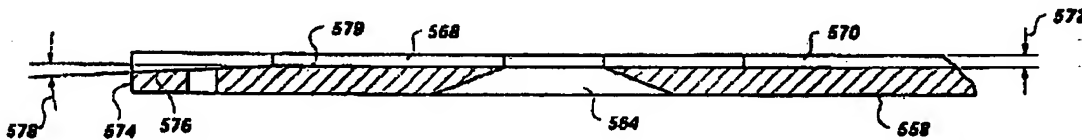


Fig. 12

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,883,574 B2
APPLICATION NO. : 10/633926
DATED : April 26, 2005
INVENTOR(S) : Gregory M. Chapman

Page 6 of 9

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In FIG. 13, add reference numeral --592-- and an appropriate lead line (As shown below)

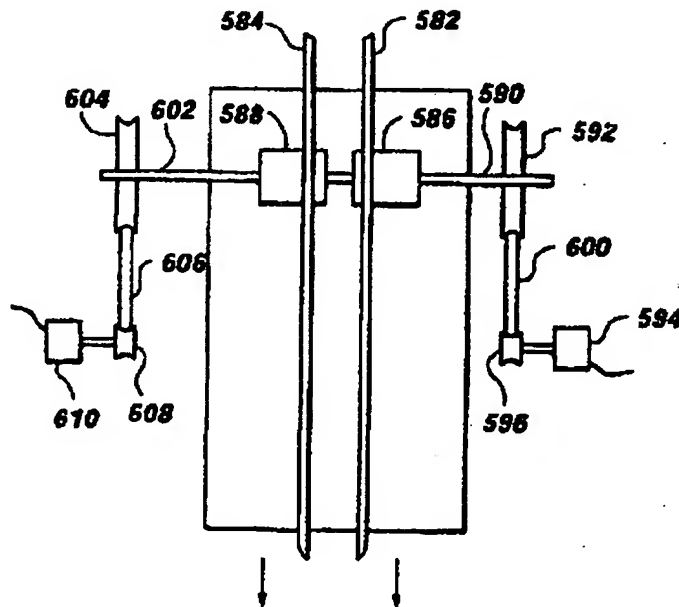


Fig. 13

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,883,574 B2
APPLICATION NO. : 10/633926
DATED : April 26, 2005
INVENTOR(S) : Gregory M. Chapman

Page 7 of 9

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In FIG. 14,

move existing reference numeral "618" and associated lead line to far right upper side of drawing, with lead line for --618-- extending from portion adjacent to 622;
move existing reference numeral "614" and associated lead line to far lower left side of drawing, with lead line for --614-- extending from portion adjacent to 616;
delete lead lines with out reference numerals (As shown below)

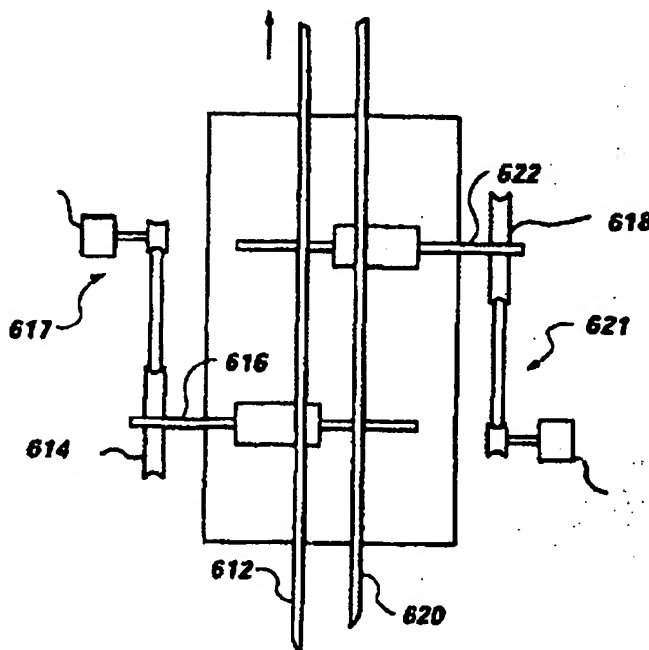


Fig. 14

COLUMN 1, LINE 1,

change "APPARATUS FOR APPLICATION OF
ADHESIVE TAPE TO SEMICONDUCTOR
DEVICES" to --METHOD AND APPARATUS FOR
APPLICATION OF ADHESIVE TAPE TO
SEMICONDUCTOR DEVICES--

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,883,574 B2
APPLICATION NO. : 10/633926
DATED : April 26, 2005
INVENTOR(S) : Gregory M. Chapman

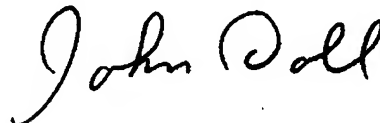
Page 8 of 9

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

COLUMN 1, LINE 47, change "lead-over chip" to --lead-over-chip--
COLUMN 7, LINE 52, after "die site" and before "of" insert --96--
COLUMN 9, LINE 20, change "thought he" to --through the--
COLUMN 10, LINE 24, change "show" to --shown--
COLUMN 11, LINE 8, change "rear cross member" to --rear cross member
168--
COLUMN 13, LINE 57, change "rings 341-343" to --rings 340-343--
COLUMN 13, LINE 59, change "length 340" to --length 340'--
COLUMN 14, LINE 6, change "340" to --340'--
COLUMN 14, LINE 8, change "340" to --340'--
COLUMN 14, LINE 15, change "bushings 302-315" to --bushings 302-305--
COLUMN 17, LINE 58, change "along right" to --along the right--

Signed and Sealed this

Third Day of March, 2009



JOHN DOLL
Acting Director of the United States Patent and Trademark Office

(12) **United States Patent**
Chapman(10) Patent No.: **US 6,883,574 B2**
(45) Date of Patent: **Apr. 26, 2005**(54) **APPARATUS FOR APPLICATION OF
ADHESIVE TAPE TO SEMICONDUCTOR
DEVICES**(75) Inventor: **Gregory M. Chapman, Meridian, ID
(US)**(73) Assignee: **Micron Technology, Inc., Boise, ID
(US)**(*) Notice: Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
U.S.C. 154(b) by 0 days.(21) Appl. No.: **10/633,926**(22) Filed: **Aug. 4, 2003**(65) **Prior Publication Data**

US 2004/0026044 A1 Feb. 12, 2004

Related U.S. Application Data(60) Continuation of application No. 09/875,632, filed on Jun. 6,
2001, now Pat. No. 6,607,019, which is a continuation of
application No. 09/330,794, filed on Jun. 14, 1999, now Pat.
No. 6,267,167, which is a division of application No.
08/908,291, filed on Aug. 7, 1997, now Pat. No. 6,096,165.(51) Int. Cl.⁷ **B32B 31/00**(52) U.S. Cl. **156/433; 156/511; 156/517;
156/521**(58) Field of Search **156/355, 433,
156/516, 517, 521, 511; 438/111, 112, 118,
123**(56) **References Cited****U.S. PATENT DOCUMENTS**2,157,735 A 5/1939 Britz
3,177,629 A 4/1965 Anspach
3,308,000 A 3/1967 Holman
3,332,818 A 7/1967 MacLeod

| | | |
|----------------|---------|-----------------------|
| 3,436,294 A | 4/1969 | Merano |
| 3,536,550 A | 10/1970 | Von Hofe |
| 4,193,834 A | 3/1980 | Bernardi |
| 4,279,682 A | 7/1981 | Hamagami et al. |
| 4,317,695 A | 3/1982 | Asar Madhu P. et al. |
| 4,539,058 A | 9/1985 | Burgess et al. |
| 4,646,127 A | 2/1987 | Barnhart |
| 4,862,245 A | 8/1989 | Pashby et al. |
| 4,985,105 A | 1/1991 | Masuda |
| 5,108,536 A | 4/1992 | Sokolovsky et al. |
| 5,286,679 A | 2/1994 | Farnworth et al. |
| 5,304,842 A | 4/1994 | Farnworth et al. |
| 5,635,009 A | 6/1997 | Kawamura et al. |
| 6,012,502 A | 1/2000 | VanNortwick et al. |
| 6,025,212 A | 2/2000 | VanNortwick et al. |
| 6,096,165 A | 8/2000 | Chapman |
| 6,099,678 A | 8/2000 | Kotato et al. |
| 6,267,167 B1 | 7/2001 | Chapman |
| 6,607,019 B2 * | 8/2003 | Chapman 156/433 |

FOREIGN PATENT DOCUMENTS

| | | |
|----|----------|--------|
| JP | 58-31514 | 2/1983 |
| JP | 04056159 | 2/1992 |

* cited by examiner

Primary Examiner—John T. Haran(74) *Attorney, Agent, or Firm—TraskBritt*

(57)

ABSTRACT

A method and apparatus for application of adhesive tape to semiconductor devices are disclosed. A first adhesively coated tape material length is supplied to a first die associated with a cutting and application mechanism. A second length of adhesively coated tape material is also provided to a second die of the cutting and application mechanism. A plurality of LOC leadframes is supplied sequentially through the application structure to apply a first decal cut from the first tape material to a first die site at a first location and to apply a second decal cut from the second tape material to a second die site at a second location.

27 Claims, 13 Drawing Sheets